

1. Product Name

Integrated™ Aluminum Bottom Rail

2. Manufacturer

Formulated Materials, LLC
3010 NW 149th St., SUITE 100
Oklahoma City, OK 73134
Tech Services : (844) 405-3676
www.formulatedmaterials.com
www.formulated.info

3. Product Description

The Integrated™ Bottom Rail is a powder-coated extruded 6063-T6 aluminum rail section designed to span between posts at the bottom of the Integrated™ Railing System. The bottom rail profile measures approximately 1-1/2" high by 1-1/4" wide inverted U-shaped extrusion with 0.080/0.100" wall thickness and includes a PVC baluster retainer (1-1/4" high by 1" wide, 0.050" wall). Each 5' section accepts 13 pickets. Each 6' section accepts 16 pickets.

Key Features

- Extruded 6063-T6 aluminum construction with 0.080/0.100" wall thickness
- Inverted U-shaped profile: 1-1/2" high x 1-1/4" wide
- 5' and 6' nominal length
- Includes PVC baluster retainer
- AAMA 2604 powder-coated finish
- Pre-routed holes for pickets
- Designed for use with Bottom Rail Level Brackets
- Compatible with all Integrated™ Railing System components

Where to Use

- Multifamily balconies and walkways
- Hotel and condominium balconies
- Commercial exterior decks and terraces
- Apartment complexes
- Renovation of aging wood frame or concrete structures

Product Composition

Extruded 6063-T6 aluminum rail with PVC baluster retainer; AAMA 2604 powder-coated finish

Product Limitations

- Install per current published instructions only.
- Do not exceed maximum post spacing for 5' rail sections.
- Do not modify, cut, or weld rail in the field except as described in the cutting procedure.
- Bottom rail must maintain minimum clearance above deck surface per applicable building code.
- Apply two coats of Formulated Materials Touch-Up Paint to all cut surfaces.
- Limitations not to be construed as all inclusive.



Packaging

5' and 6' rail Lengths packed on pallets of 300

4. Technical Data

Applicable Standards

Standard	Description
2021 IBC	International Building Code®, International Code Council
2021 IRC	International Residential Code®, International Code Council
IBC Ch. 17	Structural Tests and Special Inspections

Structural Performance — Rail and Rail-to-Bracket Tests

Test	Design Load	Result
Horizontal Uniform Load on Top Rail	300 lb (50 plf)	Achieved 2.5x (751 lb) without failure
Vertical Uniform Load on Top Rail	300 lb (50 plf)	Achieved 2.5x (758 lb) without failure
Horizontal Concentrated Load at Midspan	200 lb	Achieved 2.5x (502 lb) without failure
Concentrated Load at Ends (Brackets)	200 lb per end	Achieved 2.5x (1,000 lb) without failure
Recovery from 2.0x Design Load	—	92–98%

Structural performance testing was conducted by Intertek Building & Construction (Report No. P2566.01-119-19 R0, dated 11/16/22) in accordance with the 2021 IBC on the Integrated™ Railing System. The 72 in wide by 42 in high guardrail assembly with 3-1/2 in post mount met the 2021 IBC design load performance requirements. All tested components achieved 2.5 times design load without failure. Anchorage of support posts to the supporting structure was not included in the scope of testing and must be evaluated separately per project requirements.

5. Instructions

Tools Required

- Safety glasses
- Tape measure and pencil
- Power drill with T25 Torx bit
- Metal saw with carbide-tip blade (if cutting)
- Rubber mallet
- File
- Level

Jobsite Conditions

- Posts must be installed, plumb, and secured before rail panel installation.
- Verify post spacing matches rail length.
- Rest rails on non-abrasive material during cutting.

Surface Prep

Confirm all posts are installed, plumb, and properly secured. Verify post spacing is appropriate for rail section. Ensure Bottom Rail Level Brackets are installed on posts.

Installation of Product

1. Lay the bottom rail on a level surface with the pre-routed holes facing upward.
2. Using a rubber mallet, firmly hammer each baluster into the holes in the bottom rail until it bottoms out. A distinct metallic sound indicates the baluster is fully seated.
3. Verify all balusters are standing straight and fully inserted before proceeding to top rail attachment.
4. After the complete panel is assembled (balusters seated in both top and bottom rails), place the assembled panel into the brackets, ensuring proper seating.
5. Using the #10x1" Torx Head self-tapping screws, secure the bottom rail to the bottom rail brackets through the pre-routed holes.
6. If cutting is required: measure between posts, subtract 1/4" for clearance. Center the panel and cut equal amounts from each end. Maintain minimum 2-1/4" spacing between end balusters and posts.
7. After cutting, file edges smooth, remove shavings, apply two coats of Touch-Up Paint. Allow each coat to dry.

Storage & Protection

- Store in a dry, covered area.
- Support rails along full length.
- Avoid contact with dissimilar metals.
- Rest on non-abrasive material.

Health Precautions

- Follow all local safety regulations, including OSHA Section V: Chapter 4 for Fall Protection in Construction.
- Always wear safety glasses when cutting, drilling, and assembling the product. Use hearing protection when operating power saws.
- Always review the full label and Safety Data Sheet (SDS) for detailed precautionary instructions before use.

Conformance to Building Codes

Installation must comply with all applicable local, state, and federal codes, regulations, and industry standards. The installer is solely responsible for ensuring compliance with all local building codes and safety requirements, and for obtaining all required building permits.

6. Availability

Item	Description	Size	Qty/Unit	Per Pallet
10612	5' Bottom Rail	1-1/2" x 1-1/4" x 60"	300	300
10601	6' Bottom Rail	1-1/2" x 1-1/4" x 72"	300	300

7. Product Warranty

For details and complete warranty information, visit www.formulatedmaterials.com.

8. Product Maintenance

Properly installed products do not require ongoing maintenance. For coastal installations (within one mile of saltwater coastline), clean railing surfaces quarterly with mild soap and water to maintain finish warranty coverage. Refer to the Integrated™ Railing System Limited Warranty for complete care and maintenance requirements.

9. Technical Services Information

For Technical Services, contact Formulated Materials at (844) 405-3676.

10. Filing System

Additional product information is available from Formulated Materials upon request.



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